Geographic Area Series Data for the Mining, Construction, and Manufacturing Sectors
September 03, 2020

Operator: Welcome and thank you for standing by. At this time, I would like to inform all participants that today's call is being recorded. If you have any objections, you may disconnect at this time.

All participants will remain on a listen-only mode for the duration of the call until the question and answer session. At that time, if you would like to ask a question, you may do so by pressing "star" and "1".

I would now like to turn the call over to Lynda Lee. You may begin.

Lynda Lee: Good afternoon everyone. My name is Lynda Lee and I'd like to welcome everyone to the 2017 Economics Census Data Webinar on the Mining, Construction, and Manufacturing Sectors.

Today's webinar is being recorded. A copy of the recording slides and transcript will be available to you on our website found under the Census Academy within 5 to 10 business days. At the end of the presentation, there will be a Q&A session. And in addition to this, we also have a chat feature available for you.

So for today's webinar, I will begin with the first half of the presentation where we will take a look at the information related to the mining, construction, and manufacturing sectors, then I will turn over the presentation to my colleague, Mr. Andy Hait who will be taking a dive into the data from these sectors.

So let's go into the structure of the 2017 Economic Census Webinar Series. We began the series back in February, highlighting our ongoing releases of data from the 2017 Economic Census.

The series contained 20 webinars and all presented in two formats.

One format are webinars on the recently released data by geography. These are the ones listed in the left column. In these webinars, you are able to learn about highlights of data and changes that have been impacted – to have impacted the data by select the state. And as you'll notice,

the webinars highlighted in gray have been completed with the last one for the state-based webinars at the end of July. And if you're interested in viewing our past webinars, the link at the bottom of the slide leads you directly to the Census Academy, where we have these webinars archived.

The other format in which you will see here today concentrates on the recently released Economic Census data by sector, as classified by the North American Industry Classification System, also commonly referred to as the NAICS.

Today's webinar on the mining, construction, and manufacturing are classified under NAICS code 21, 23, and 31 through 33 respectively.

And before we move along, I want to mention that if you've seen our first look report released at the national level back in September of 2019, the data are superseded by these later reports.

Let's take a look at a high level overview about the Census Bureau. The Census Bureau conducts over 130 surveys each year with our highly recognizable ones listed on this slide.

The decennial census takes place every 10 years, and we are currently conducting the decennial. We highly encourage you to spread the word to anyone who may not have had the opportunity to participate yet. It's quick and easy, it's safe and secure, and it's not too late. Responses to the decennial help funding flow into your state and communities each year.

Another one of our highly visible programs is the American Community Survey. This is an annual program that collects demographic data. So you're able to find out statistics on households from the ACS.

We also have the Census of Governments, which is the public counterpart of the program that we will be looking at today, the Economic Census. Both of these programs are conducted every five years in the years ending in 2 and 7.

The graphic that you see on the right is our census.gov main page. This is the place to begin when you're – when you want to explore all possibilities and offerings that we have at the Census Bureau.

And I'd like to also point out that we have a new feature on the main page, which is the COVID-19 data hub. This is your one stop shop for data as it relates to the coronavirus and its impacts on businesses and the community. If you haven't had the chance to see the data hub. I think that you'll fund a wealth of data and information that we have on this topic is quite impressive.

This slide shows the relationship between the data release frequency and the level of detail. When you're looking for data, we have data released by different frequencies. The relationship between frequency and detail are best exemplified by this pyramid where surveys that are released more frequently provide less details.

Now with that being said, the Economic Census is located at the bottom of the pyramid because it is our most comprehensive source for business data.

So let's dive into the Economic Census. As our most comprehensive business program, the Economic Census collects data at the two, through six-digit level NAICS code with some exceptions. For instance, NAICS code 11 for agriculture is excluded.

From the census there, our limited data is available on NAICS 11 from our programs the County Business Patterns and the Non-Employer Statistics.

The CBP and NES can provide the number of establishments' annual payroll, and number of employees for NAICS 11. Now apart from these variables, your primary source of data for this sector is available from the USDA. And a full list of exclusions is available for you at this link.

Another defining feature of the Economic Census is the level of geography. Now while we do

have other programs such as the County Business Patterns and the Zip Code Business Patterns available, because these programs are conducted more frequently, they provide less detail.

From the Economic Census, you can obtain over 200 data variables at the granular level. It covers almost 8 million employer businesses excluding non-employers, which are insignificant in some industries in this sector, but not in others.

The Economic Census also includes product lines data. Now this is not an industry of origin based. It is a comprehensive market or demand-based classification system for goods and services. And it’s neat because it can be linked to the NAICS industry structure.

So where can you access our data? Well, a primary way is to go to data.census.gov where you can perform a search similar to the way you would on a standard search engine, and the data is also available on the Census Business Builder, and other Census tools.

So what’s next in the release of the data for the 2017 Economic Census? Well right now, we have just completed the release of the geographic area statistics case on August the 20th. This is much earlier than we had anticipated.

And beginning in November of this year, the product statistics will begin to release. The establishment and firm site statistics also begin releasing in November of this year well into September 2021. And miscellaneous statistics will be available during this timeframe as well.

This schedule is available on our site and a link is provided here for you as well. It’s definitely worth checking the schedule out now and then especially if you're waiting for a particular data release because we may update the schedule to earlier release dates. And if you're interested in seeing the full list, please use this link, or you can also find the schedule under the Economic Census section on our site, census.gov.

And here are some geographic area statistics resources for you. The link in the red border takes you to a page where you can obtain information on what's been released, as well as upcoming releases. You'll also see this handy interactive map on the page. The fully-filled hexagons indicate that the data for this sector that you selected have been released for that state.

And if you look at the lower right hand corner, the donut shaped graph tells you the percentage of data that have been released.

So even though this series is now completed with all the data by geography release, this visualization is still useful as it provides deep links into the data.census.gov for the data by state and sector. You can also use the menu to drill down by geography and by industry.

This slide provides an overview of the type of businesses that are categorized in the mining, construction, and manufacturing sectors. It's good to know that the Economic Census is collected on an establishment level. So what this means is that sometimes a single business address for these sectors can translate into two or more establishments. For instance, the research and development facility can be at the manufacturing plant, so therefore the establishment when we see two forms.

When you're looking at the data for the mining sector found under the NAICS code 21, these are establishments that operate online and/or provide mining support activities. And these establishments are grouped according to the natural resource that are being mined.

The construction sector are establishments that are primarily engaged in the construction of buildings and also engineering projects such as highways and utility systems. Construction work can include a wide range, from new projects to additions and alterations, to maintenance and repair.

When you're using data from this sector, it's important to know that you may want to consider

including data from our program called the Non-employer statistics. This is because many establishments in the construction sector are non-employers where they do not report an employee. Non-employer statistics can be a critical component to consider in some industries, while they're less likely to occur in other industries.

And finally, the manufacturing sector, are establishments that transform materials into new products. Manufacturing establishments also include some activities like publishing, or retail bakeries that are not immediately thought of as manufacturing.

One thing you may want to take note is that shipment values for both mining and manufacturing sectors represent the fair market value of the product when it leaves the plant, not the sales value. And that’s because these products are often shipped to establishments owned by the same company. So we ask them to put a fair value on the product.

Let’s take a look at the graph for a moment.

This graph shows the number of establishments for different sectors of the economy. Represented in red are the mining, construction, and manufacturing sectors. As you can see, there are 750,364 numbers of establishments nationwide operating in the construction sector of the economy.

You’ll also notice that while retail trade is leading the pack in the number of establishments for all sectors, the number for establishments for the construction sector is not too far behind. At the bottom of the slide, you’ll notice several key facts for the mining, construction, and manufacturing sectors. While the construction sector has more number of establishments when compared to the manufacturing sector, here we see that for the employment aspect. More people are employed are employed in the manufacturing sector.

And a side note on employment data from the Economic Census. The data are not adjusted to full time employment and reflect the pay period including March 12th. So they are affected by seasonality.

And if you like more information on this, please check out the quarterly census of employment and wages available at the Bureau of Labor Statistics.

You'll also notice that the manufacturing sector leads the way when it comes to the value of shipment and revenue reporting, approximately 5.5 trillion in 2017. So if you're a data user who may have been using data from the first look report that was released at the national level back in September of last year, you should update your files because the geographic area statistics supersede the first look data.

For our regular users on the Economics Census data, please take note of this slide as there are key changes in the release of the 2017 data.

First, we have geographic area changes; counties, places, metropolitan statistical areas have been redefined. There are also changes to the NAICS with the addition of new codes, while other codes have changed. And I'll go more into this on the next slide.

The 2017 Economic Census includes the North American Product Classification System, also referred to as the NAPCS. Now this replaces the old product lines table from the previous releases. The new NAPCS system makes it easier for you to look at data for the end product. Before the NAPCS, if you were interested in finding data for a particular product, you would have to find data for all sectors that contributed to existence on that product or services such as manufacture, wholesale, and retail sectors. And the data may not be consistent with one another as they could have different methodologies. So the NAPCS is a welcome addition to anyone who regularly uses our products data.

Other changes include the way miscellaneous subjects data are released. And you'll recall from a few slides back the miscellaneous statistics will begin releasing in November.

Another key update is our new disclosure rule. So previously, we were able to publish the

number of establishments if the remainder of the data are subject to disclosure. Under our new rule, we are unable to provide information on disclosed establishments.

And finally, the Economic Census is disseminated on our new platform accessible at data.census.gov. And as of August, it is now on the census business builder. If you need more information on these key changes, please use the link and you'll be able to view a webinar that details all the changes.

One of the update I mentioned on the previous slide is the NAICS. The NAICS system was adopted in 1997 and updated every five years to coincide with the Economic Census years. The 2017 manual is hyperlinked here for easy access, and it's also available on our site census.gov.

So let's take a look specifically at the types of NAICS changes for this release. We have changes categorized as One to One, One to Many, Many to One, and Many to Many type of updates.

Here are some illustrations on the type of code updates. Highlighted in green are examples of Many to One where many codes from the previous addition are consolidated under one code in 2017. In this example, we see that in the mining sector, copper, nickel, lead, and zinc mining is now one code in the 2017's edition. And similarly for the manufacturing sector, we see several codes consolidated as well.

For the construction sector, there were no changes, so you'll be able to do a comparison between the 2012 and 2017 Economic Census years.

In blue is an example of one to one where the code itself changed, but the classification description itself remaining constant.

And on this slide, the peach highlight for the professional, scientific, and technical services show some example of one to many. This is often the case of an increase in economic activity surrounding the business activity, therefore warranting a break out of the code in order to measure the emerging industry. All the great data we've seen today is available to you on several tools.

Quick fact, as the name suggests, is a tool where you can quickly obtain statistics for all states, counties, cities, and towns with a population of 5,000 or more. You can also obtain the 2017 Economic Census data on the Census Business Builder, also commonly referred to as the CBB. Our latest version of this tool, version 3.1 just came out back in August, includes the 2017 Economic Census data.

And for anyone who has not had the chance to use the CBB, it is a user-friendly tool with two editions available based on your needs. The edition is that it's right for you depends on if your data need is for single industry or for all business sectors are the same time.

And you're in luck today, my colleague Andy, who is up next, is the Project Manager for this tool. So if you have questions on this tool, you'll be able to go more thoroughly and provide you a response.

Finally, data.census.gov is a new data dissemination platform. The search experience on this platform is similar to those typical search engines. And we also have an advanced search feature so you can drill down to the specifics that way as well.

We have fun facts available for you on all 50 states. Each of the fun fact include a picture of the state's quarter along with data for a specific sector within that particular state.

On this slide, we see that in 2017, there are 150 establishments in the mining sector with 10,922 employees reporting a total shipment of 12.3 billion. Similar type of data is seen for the construction sector for Montana, and the manufacturing sector in Alabama.

But these are only a handful of fun facts for the mining, construction, and manufacturing sectors. We have more fun facts on these sectors from other states such as Maine, Maryland, New Hampshire, Oregon, South Carolina, Utah, and West Virginia. And the first link on this page will lead you directly to our economics census visualization where you can obtain these graphics.

If you haven't already subscribed to us, I highly encourage you to do so. Not only will you receive these types of fun facts, but you will also be receiving notifications on our upcoming new data releases and events.

You'll also be able to receive messages for our America Counts platform, where we feature stories behind the data. If you have not had the chance to visit the America Counts page, the second link on this slide would take you to an America Counts story. And this particular story is about the interactive map that you saw earlier in one of the earlier slides.

And now, I would like to turn over the presentation to my colleague, Mr. Andy Hait, who will be diving into data from the mining, construction, and manufacturing sector.

Andy Hait: Thank you so much, Lynda. So again, my name is Andy Hait. Let me go ahead and get myself signed in over here and connected so you could actually see my presentation.

I am an economist at the U.S. Census Bureau. I've been with the bureau for a little over 30 years, and I spent my entire career working in what we call our Economic directorate. That is the part of the Census Bureau that is responsible for all of those great business surveys that Lynda was talking about in her presentation.

So what I'm going to be doing today is talk a little bit about some of the data findings that we had for these three sectors from the 2017 Economic Census.

So to get us started, the graph that you see here is looking at the mining, construction, and manufacturing sectors broken out by three-digit NAICS subsectors. That is – subsector is a term that we use to refer to a three-digit NAICS code.

And as you can see, the mining sector is the smallest of these three sectors. When I pulled these data, I was interested to see that in all three of these subsectors within mining, when we look at the change between 2012 and 2017 in terms of shipments or revenue, all three sectors have seen a decline between 2012 and 2017. Oil and gas extraction is as you can see the largest of the three subsectors, but it is also the subsector that had the most decline between 2012 and 2017.

The mining sector, except oil and gas extraction, also saw a decline, but its decline was the least.

And this does bring up a very important point about comparability of our data over time whenever you're talking about dollar related variables.

So for things like number of establishments or employment, number of production workers, data that are numbers – comparing data over time is fairly easy. When you're looking at total employment in the industry and you want to see how that employment changed, there’s no adjustment that you need to make when you compare data between 2012 and 2017. But that is not true when you are using our revenue, shipments, receipts, and other types of statistics that are expressed in terms of dollars.

When we conduct the Economic Census, we do not adjust the data for inflation. So when you're comparing data over time, very often you need to keep into account price change and inflation, or in some cases deflation when you're looking at a comparison.

So some of the large decline in the oil and gas extraction industry between 2012 and 2017 that you can see on this chart may be due to price change. If the price per gallon of a barrel of oil declined between 2012 and 2017, even when businesses were still producing as much oil and gas as they were before, if the price decreased, then you would expect to see a decline in the total shipments.

That does mean that when you're looking at our data, number one, you need to think about that in terms of that adjustment, but also, in some of our business data programs, including the data from mining and manufacturing, we not only publish dollars, but we publish quantities. And that sometimes is a great resource to be able to understand change over time because tons over tons, you don’t need to adjust them.

Now, in looking at the construction sector, you can see that there are two subsectors that really had the biggest growth between 2012 and 2017. The first is the construction of buildings sector. That includes businesses who build residential homes, as well as businesses that build commercial, industrial, and institutional buildings, as well as specialty trade contractors, which is the industry or the subsector that would include companies (businesses) that are electricians, or plumbers, or drywall contractors, or Terrazzo contractors, et cetera.

Those two subsectors are the largest subsectors within this particular industry for this particular sector. And you can see that they’ve also seen the most growth. In fact, construction businesses saw the largest increases of those three subsectors.

Now when we look at the manufacturing sector, we see a lot of subsector codes. In fact, in the NAICS classification system, manufacturing is the sector that has the most three-digit NAICS codes that break out that detail. So you can see they're detailed specific subsectors for food manufacturing, petroleum and coal product manufacturing, et cetera. This is one of the most detailed industry products that we publish.

As you can clearly see, the transportation equipment manufacturing subsector was the one that had the largest increase between 2012 and 2017. And in just a moment, I'm going to be exploring this transportation equipment sector a little – or subsector – a little bit more just to give you a flavor for the types of detailed data that are available in the Economic Census.

Right now, we're looking at three digit industries at the national level. If we want to then see, well what are the states that have seen the biggest increase in their transportation equipment manufacturing businesses, we can go ahead and do that as well.

Now before I get off the slide, I want to reiterate one thing that Lynda said in her part of the presentation. And that is that in the Economic Census, we exclude non-employer businesses; self-employed people from the definition of – from the coverage of the Economic Census.

And when we think about these three sectors, self-employed people are certainly possible in the manufacturing and mining sectors, but it's hard to sort of imagine them being numerous, or them being substantial in terms of their impact in the industry. A very small paper manufacturer could be a self-employed person who makes paper in their garage. But again, the impact on the paper manufacturing industry is probably very small due to these non-employers.

That fact is definitely not true when we think about the construction sector. When we're looking at construction of buildings and certainly when we're looking at specialty trade contractors, you need to remember that these statistics from the Economic Census only include employer plumbers,

only include employer electricians. These are businesses of one or more paid employees that file the payroll tax form with the IRS.

There are hundreds of thousands of independent electricians and plumbers, and a variety of other types of specialty trade contractors. So I always advice people whenever you use these data from the Economic Census, first be aware of the prevalence of self-employed people in that industry. In some industries, you can ignore them. They are not very numerous, and they don't make up much of a difference in a particular industry. But in other industries, I really encourage folks to add together the data from the Economic Census to the data from non-employer statistics to allow you to understand the complete package, the complete industry. So specialty trade contractors, very, very true there.

And on this next slide that I'm going to get to, let's change gears and talk a little bit about employment. How has the change in employment matched their – in comparison to shipments?

And we can see in comparison to the previous slide where specialty trade contractors certainly increased but not as much as building construction contractors, that is not true when it comes to employment data itself. Specialty trade contractors are the largest employer in the construction sector, and that particular subsector also saw the largest increase in employees.

One of the attendees just posted a note in the chat about where can I get this data on non-employers? We have a specific survey called Non-employer Statistics. It is available on the Census Bureau's website; as you search down that site, you'll find it. It is also available in our brand new data.census.gov data tool, our platform.

And we have also merged together the employer and the non-employer data in the Census Business Builder tool that Lynda talked to you all about. So if you wanted to get information on how many electricians there are in the United States and you wanted to add together the number

of employers and the number of non-employers, we've done that for you in Census Business Builder.

Now when we look at the employment in the manufacturing sector, we can see that the largest subsector in terms of employment is actually food manufacturing. On the previous slide, you could see the transportation equipment manufacturing was the largest sector in terms of revenue. But that's not true when it comes to employment. It's actually just slightly ahead of.

Now in comparison, transportation equipment manufacturers still is a very large employer and it actually had the largest increase, going from about 1.4 million employees in 2012 to about 1.5 million employees in 2017.

I know that many of us sort of have heard the common story, or common wisdom that manufacturing is declining in United States. That may be true in some industries, but it is certainly not true in others, and that is definitely not the case when it comes to transportation equipment manufacturing.

So this is looking at employment in comparison to the revenue data that we saw in the previous slide.

Now let's look a little bit about how much do these workers on average get paid.

In the Economic Census, we published statistics on total annual payroll. We also publish statistics on total employment, and any reasonably savvy user can take those two statistics and create a ratio that looks at the average annual payroll per employee. That's what I've done here on this slide.

So this is now looking at the data by subsector just like the previous two slides. And as we can see, the picture looks a little different. In the construction sector, while specialty trade contractors were the most in terms of the employment, and were one of the highest in terms of revenue, if you work in heavy and civil engineering constructions, that's the industry, that's the subsector for working in terms of highest average annual payroll. Those workers in that particular subsector earn on average about $71,000 a year.

The picture looks even more different when we look at manufacturing. On the previous slide, we can see that food product manufacturing and transportation equipment manufacturing tend to be (or are) the two subsectors that had the highest amount of employees in 2012 and 2017. But in terms of how much those workers earn, it is good to work for petroleum or coal product manufacturing because those workers on average earn about $104,000 per year.

Again, these numbers are not adjusted for inflation. So if you wanted to compare average annual payroll per employment for each of these subsectors over time, you will just have to keep in mind that the data are not adjusted, and there's a certain amount of price change that goes there.

Now, you'll notice that in this industry, there are very few manufacturing industries that actually have an average annual payroll per employment that's lower than the national average for every single NAICS code. On average, when you look at every single type of business in the United States that are covered by the Economic Census, the average for what we call NAICS 00 is about $52,000 a year. And you can see, there are some industries that are below there, but there are also a lot of industries in manufacturing that are pretty substantially above there, including of course petroleum and coal product manufacturing.

Now as I've mentioned, the Economic Census published a data not only at the national level, but it also published data by state. And I'm sort of a curious data user, so I was really sort of curious to look at those shipment statistics that we received for transportation equipment manufacturers

to see is that increase in transportation equipment manufacturers is even across the nation, or if there are some states where that shipment increase has grown more than others, and are there some states that dominate more than others.

So I went into our data.census.gov platform and I actually pulled the shipment statistics for transportation equipment manufacturers by state. And as you could see, clearly see, Michigan leads the nation in terms of the total shipments of transportation equipment manufacturers, about 121 billion – excuse me, a thousand million – yes, billion dollars. These are just shown in thousands. So it's $121,259,602,000.

Right behind Michigan was Indiana. That was a little bit of a surprise to me. But when I've been working on a brand new story on the RV industry, I know that almost all the RV manufacturers are actually based in Indiana. And so it would be really interesting to drill down within this transportation equipment manufacturing subsector to see what types of transportation equipment manufacturers are seeing the biggest share of this shipment amount in Indiana.

So again, I'm really encouraging you all to kind of further explore these data because there's really sort of quite fascinating things in there.

The third ranked state in terms of transportation equipment manufacturers by states is Ohio with about $76 billion. And then right behind there is Texas with about $70 billion, and Washington State with $62 billion.

Now when you think about Washington State, think about the types of transportation equipment manufacturers that are physically located in Washington State. Are these automobile manufacturers, or are these aircraft manufacturers. The Economic Census provides data not only at the two-digit, and the three-digit subsector, but also down to the four, five, and six-digit

detailed NAICS codes. So we could further drill down within the state of a break out to look out how each of these subsectors is distributed across all the industries.

And is the mix of transportation equipment manufacturers in Michigan, the same as it is in Washington? The short answer is no. It is not. But this is the kind of statistics that are available.

In the previous couple of slides, I did do a comparison between 2012 and 2017. In this particular slide, I cheated a little and just showed you all the 2017 data. But again, I would really encourage you all to kind of explore this further, to download the data for 2012 and 2017 to see is Michigan not only the biggest state in terms of transportation equipment manufacturers, but has it also grown the most, or are there other states like Alabama, or South Carolina, or Kentucky, or California, that has added a lot of transportation equipment manufacturers startups in those couple of states in the last few years – Tennessee, would be really interesting to compare that.

Now again, thinking more about these transportation equipment manufacturers, I was sort of curious to see is the average annual payroll per employee or people who work for these transportation equipment manufacturers the same throughout all states, or does it vary widely?

As you can see in the chart, it most definitely varies widely. The state that offers the highest average annual payroll per employment in this particular subsector is actually the State of Colorado at about $104,000 per employee. Right behind there is the State of Arizona, then Washington, then Connecticut which is sort of interesting, and then finally the State of Texas at about $77,000.

So if I was graduating from college and I was interested in working as a manager, let's say a plant foreman, for a transportation equipment manufacturer, I might be interested in looking at jobs in one of these states because they tend to pay higher.

Now, some of the reasons why they may pay higher is because the mixture of businesses within the transportation equipment manufacturers might be different. The types of transportation equipment manufacturers in Colorado might be very different than those that are actually located in Michigan, which pays more like around $50,000 per year.

So certainly, you would want to look at those. And as one of our attendees just posted, yes, you would certainly also want to look at the cost of living in those particular areas. If you're working at the transportation equipment manufacturing industry in Tennessee and you're earning $56,000 or so a year working for that business, but your cost of living is half of what it would be in Colorado or in California let's say, maybe that money actually goes further.

So these data can be very valuable from a worker perspective, and certainly they are very valuable from a business perspective, because it helps businesses understand what the market is of other businesses like them if they're thinking about expansion.

So if I was looking to open a transportation equipment manufacturing business in a particular state and I wanted to find the one that pays the least, I might want to look at the Economic Census data to see what is that state. And you can see, it's actually Wyoming.

Now to the point I was making earlier about how the mixture of businesses within a particular subsector could be quite different from state to state, I dove in a little bit into the shipments in the State of Michigan in the transportation equipment manufacturing. And I can see I have a little typo there on the word transportation.

And no surprise to me, the two industry groups, the four-digit NAICS codes that actually constitute the largest share of manufacturing shipments in this particular subsector are motor vehicle manufacturers and motor vehicle parts manufacturers.

While there certainly are some motor vehicle body, aerospace, and even a little bit of railroad building (stock) manufacturers in the State of Michigan, this industry, this particular subsector is really dominated by these two industry groups in the state.

If you look at the state industry group breakout though for another state, we might see a dramatically different breakout. That fourth category, aerospace product and parts manufacturing from Washington State may look very different than this chart does here.

So again, this is just giving us a taste of the data that is available. In these tables, I've downloaded data at the national and state level. But as Lynda said, statistics in the Economic Census are available by metropolitan area, by county, and even by city and town, villages, boroughs. But we call it economic place.

So if I really wanted to drill down within the State of Michigan to see what counties are growing, or what counties make up the vast majority of these motor vehicle manufacturers, what is the average payroll per employment in those counties, the data would be available.

Now, I do want to remind everybody of course that our data are all subject to privacy protections. So there are certain cases where we can show data at a more aggregated level, but are not able to show it at the more detailed industry levels because you may only have a very small number of manufacturers, a small number of companies in that industry, in that county.

If you think about a particular county in Washington State, then the only one company in a particular industry in that county. So while we can publish data on this data as a whole, when you get down to the individual counties, you often then find cases where the data had had to be suppressed.

So I do just want to remind you all that we are very committed to protecting the privacy of business who respond to the Economic Census. And because of that privacy protection, we do have to suppress data periodically when you could identify that.

So as Lynda said, we've just completed with the release of the mining, construction, and manufacturing data. But local area statistics would be called geographic area statistics from the Economic Census.

You may be wondering, well, in that calendar that we showed you all, what's coming next? What are the next things that are coming out?

So in November, we will be releasing something called the NAPCS tables. That stands for North American Product Classification System.

Now as some of you probably know, in addition to publishing basic industry type statistics, we also publish something called product lines and product statistics as part of the Economic Census.

In the past, those product statistics were published very differently between manufacturing, mining, construction, and between the services sectors. So what those product data looked like for a grocery store was very different, the tables looked very different in how the tables looked for grocery manufacturers in the manufacturing sector.

For the very first time, we will be implementing this new North American Product Classification System, or NAPCS system. And what the thing that it's going to be doing is it's going to standardize the dissemination of all of those product lines data across each industry. So if I was interested for example in looking at information on manufacturers of food products, wholesalers of

food products, and retailers of food products, I will now be able to go to one table and pull those food product lines data for across all three of those particular sectors in one place.

Now obviously for today's webinar, we're not going to have a lot of time to talk about that. There will actually be a future webinar just on these new NAPCS data. But before we actually do that, I would encourage you all to check out this link that I've provided here on the slide that's the understanding NAPCS. So it will give you sort of a preview of what these NAPCS tables are going to look like.

Now after we release the NAPCS tables, we will also start releasing what we call our establishment and firm size report. One of the most common requests that I get when I do presentations for users is "Andy, does Census Bureau have data on small business?" And I say, well what do you mean by small? Is your definition of small based upon an individual establishment, or is it based upon a firm? Is your definition of small based upon how many employees they have, or is your definition of small based upon what the revenue is?

In the Economic Census, we published all four of those dimensions in the establishment and firm size reports. So if my definition of a small manufacturer was a manufacturing establishment that has less than 100 employees, those data are published in the establishment and firm size reports.

Now in addition to those business size tables, there are also some tables on things like concentration ratios – how much the top four, eight, 20, and 50 largest companies in a firm make up of the total? The legal form of the organization – are these companies corporations, are they partnerships, are they proprietorships, and even franchise status.

And yes, in these three sectors that we've been talking about today, there are franchise industries within those three sectors. Sign manufacturers, I learned a couple of years ago, is an industry where there's actually franchise opportunities available in that particular industry. And that's the

manufacturing sector. So those reports start coming out in November and will continue through the September of next year.

And while that's also happening, we'll be releasing something called the miscellaneous subjects tables. These are an eclectic mix of some very different specialized tables. And what I will say for those of you who are interested in the construction sector, these tables not only include statistics on construction businesses just in total, but they also published data on what they call kind of business and type of construction.

So when you think about some construction businesses – let's pick a particular construction industry like single family home builders – there are businesses in that industry that just build homes. But there are also businesses in that industry that in addition to building the home itself, also do the wiring in that home, or also do the plumbing in that home. They don't subcontract out. They actually do that work themselves. So they have product lines basically in that industry that include activities that are outside of just simply building homes themselves.

That type of kind of business, and type of construction data is available. And you can see and look at those statistics how very diversified some construction businesses are where they have activities across a wide variety of products and industries where other construction businesses tend to be very, very special. So those data will be coming out after there as well.

So to summarize our presentation for today, and I want to thank you all for sticking it out with us for this last 50 minutes or so. The Economic Census provides an amazing wealth of business data. This is our largest business survey that we do at the U.S. Census Bureau. It produces the most detailed statistics that are available. They are not the most timely statistics that are available.

We certainly have more timely data available in our economic indicator surveys like the monthly shipment inventories, and orders reports that cover the manufacturing sector. But the Economic Census really excels in terms of the detailed data, the data broken up by industry, and by geography. Those 200 or so data variables that are published. In the manufacturing sector, that sector actually publishes the most variables of any sector in the Economic Census. You can get detailed information not only on employment payroll and sales, or shipments, but you can also get inventories and assets, depreciation, and capital expenditures, and purchase services, and the wide variety of other statistics.

Now because the Economic Census is our largest program, it takes us a while to get it all out. We release the data on a slow basis. We've just completed the release of all of our state and local area data in August, but there's all those other programs that I was just talking about. So if you want to learn more, I would go ahead and recommend you check out these news update in the releases calendar that are here as well.

Now I did just notice a particular – an attendee just asked a question that I just saw popup, about does the Economic Census cover the U.S. territories; American Samoa, Guam, Northern Marianas, U.S. Virgin Islands, and Puerto Rico? And the short answer is no, the Economic Census doesn't. But the Economic Census of Island Areas does. We actually have a completely separate Economic Census of those five U.S. territories. So those data would be available from that program.

Lynda also made the point when she was talking about the geographies that are published in the Economic Census, that the geographic breakout that is available by sector varies from sector to sector.

So for example, if you're talking about the retail trade sector, data are published at the national, state, metro, county, and place levels, as well as a few other sort of more esoteric levels.

If you're talking about the mining sector, the data are only published at the national and state level. We don't have data at those smaller geographies. And the single biggest reason for that as to why we actually publish some sectors down, some geographies, and others down to less geographies is privacy.

There's only 26,000 or excuse me, 36,000 mining businesses in the United States. And if you started slicing and dicing those businesses down to geographies by industry, you would very likely end up with a lot of metropolitan areas, and counties, and certainly places that may only have one mining establishment in a particular industry, in that particular county.

In every one of those cases, we would have to suppress the data for those particular industries. So we don't even bother to even try.

So some sectors like retail or accommodation and food services, we publish a more detailed breakout of geographic data. In other sectors, we publish a little bit less.

Now one point that Lynda also made when we're talking about the summary is that NAICS changes every five years. When you are comparing data over time, please, please, please make sure that what you're comparing is comparable. And we've got resources available on our NAICS website that allow you to go in and look for those industry changes that Lynda talked about.

It lets you understand that if I was interested in looking at data for appliance manufacturers, the code that we publish in 2017 for household appliance manufacturers is very different than the codes that we published in 2012 for household appliance manufacturers. So in '17, we had one code; in 2012, we had five codes. So if I wanted to compare that data over time and want to take those five codes from 2012, add them up, then that would then give me a comparable number to compare to 2017.

Data.census.gov is our new primary data dissemination tool. It is the main tool that the Economic Census is being released on. If you have not yet started to use data.census.gov because you're still sort of bemoaning the loss of American FactFinder, it's time to get over it because this is now here to stay, and I would really encourage you all to go in there and check it out.

I will tell you as some of you has grown up on American FactFinder – I started working at the Census Bureau in 1987 way before AFF even existed – data.census.gov really has the promise of doing many things that you could never do in the American FactFinder. So we're not there yet, but we're certainly working there.

And finally to close us out, there's more data coming. I gave you guys a preview of some of those other reports. I would encourage you all to keep checking back on the economic census website to see what's coming out.

So with that, I want to say thank you to you all for taking the time to be able to attend this webinar. And we would like to now open it up for questions. I know that we've been taking some in chat, but we also could open up for you to ask them via the phone. So operator, we're ready to take some questions.

Operator: Absolutely. If you would like to ask a question, press "star," "1" from your phone and mute your line, and record your first and last name clearly when prompted. If you would like to withdraw your question, you can press "star," "2". Just a moment as we wait for questions to queue.

Lynda Lee: Hey Andy, this is Lynda. While we're waiting for questions to come in, we did receive a question in the chat about landscaping trade and mowers. Where does landscaping trade come in and mowers, et cetera?

I'm assuming this question is asking for how are they classified.

Andy Hait: Yes. So landscaping contractors are actually not in any of the three sectors that we have talked about today. Landscaping contractors which would include people who just go around their neighborhood and mow lawns are actually classified in NAICS 81 which is other services. That is a very eclectic mix of businesses, but they are not actually considered mining establishments, construction establishments, or manufacturers.

Now certainly in manufacturing, the companies that make the mowers, those are in the manufacturing data. The construction businesses that use those mowers in doing their work, they are in construction sector. But no, the landscapers themselves are in – are not in any of these three sectors.

Now, I did – while we're waiting our operator for more questions to come in, there was one question that came in while Lynda was presenting, talking about NAFTA and asking about what type of data do we have that can show, potentially show the impacts of the North American Free Trade Agreement and the new version of NAFTA on business.

And I'll answer that question in sum of two parts. First is the fact that NAICS, North American Industry Classification System is a three-country agreement. At the two through five digit NAICS code levels, the U.S., Canada, and Mexico all use the exact same code system. So if I wanted to compare manufacturing data in the United States to manufacturing data in Canada and Mexico, and I wanted to drill down from the two digit NAICS sector down to the full five digit NAICS breakouts, I could easily compare those data across those three countries, because at the two to five digit level, they are completely comparable. The agreement is that we will stay consistent at the two through five.

At the six-digit NAICS code, we then start to diverge. There are some countries, for example U.S. and Mexico have a specific manufacturing six-digit NAICS code for tortilla manufacturing, where Canada does not have a specific six-digit NAICS code for that activity. Those tortilla manufacturers are included in another six-digit code.

So the coding system does diverge when you get beyond the five digits. But in terms of comparability of data, you could pull those data across. And when you compare those data over time, you can see the impact of the trade agreements on various different things that we have between our three countries, is looking at that data itself. You can see how those imports or those products that we are bringing in have (ended its load) as the trade agreements have changed.

Now of course in the Economic Census program, we're talking about 2017 data. But I do want to remind you all that we actually have more timely data than the Economic Census not quite as detailed in our annual programs, like County Business Patterns and Non-employer Statistics.

And in our monthly and quarterly surveys like our economic indicator surveys, every single month the Census Bureau publishes detailed information on imports and exports. Those data are published at the industry level by commodity, and by country origination and destination, and finally by geography including port level data.

So if you're really interested in looking at sort of the flows of commodities between our three countries, those data are available from our trade programs in a data tool called USA Trade Online. The tool is available to use for free. You do have to register and create an account, but there is no charge. So I would really recommend folks to kind of compare those data over time between our three countries, but then also using the trade data to see some of those impacts as well.

So operator, do we have any questions on the phone?

Operator: We do. Our first question comes from (Timothy). Your line is now open.

(Timothy): How are you doing today?

Andy Hait: Good.

(Timothy): All right. I just had a quick question about as far as the trade agreements would go for the global economy, is this something that I'm here for ((inaudible))?

I deal with nonprofit organizations. And as far as with the turnover for the new ((inaudible)) fiscal year would be – the nonprofit would be looking to grow, but I never looked in international trades, or anything like that, or partnerships where it came down to nonprofit organizations you ever throw in the backburner.

And I didn't see anything on this paperwork about the nonprofit organizations.

Andy Hait: Right. So let's talk first a little bit about nonprofits. So at the Census Bureau, we do not publish data specifically on profit or nonprofit businesses for a couple of reasons. But what we do publish is something on tax status. So we do publish data on businesses that are subject to federal income tax, or that are exempt from federal income tax.

Now tax status is a reasonable proxy for profit/nonprofit. It's not perfect. It is possible to be a for-profit business and still be tax exempt. Kind of strange to think about that, but that is actually possible.

But the reason why we don't publish profit/nonprofit is because the definition of what it means to be a profit or nonprofit business is not consistent across every state in the nation. The state rules sometimes do vary.

And number two, a business can flip flop from year to year going from profit status to nonprofit status, and maybe even back, whereas that does not happen when you think about tax status. So we publish that.

Now in terms of using Census Bureau data, of course all of the business data we've been talking about today are for businesses that are physically located here at United States. That information is tabulated regardless of whether that company is owned by a foreign company, a foreign-owned company, or whether it's domestically owned company.

So the Japanese automobile manufacturers, they're located here in the United States, that plant is located here, so therefore we tabulate data for it. It does not – we don't care per se whether or not that business is foreign owned or not.

So you can look at our data to look the global economy from those businesses that are physically located here. But then the trade data then gives you a real insight into the movement of commodities in this global economy from the U.S. to and from other countries. So you really can get some interesting insights into how much of the automobile manufacturing industry is here in the U.S. versus how much of the automobiles that we buy own a deal or lot every year couple are imported.

So I don't know if I answered your question. There's a lot of things that we can talk about.

(Timothy): Yes, there's been a lot going on and a lot of ((inaudible)) going on here left and right, and geopolitical stuff. So I'm just trying to get the straightforward answer has been hard lately.

And just trying to say as it has occurred, this is the closest thing I've found for being ahead of the curve, and there's a lot of information of breakdown, but that did give me a lot of insight on to that I'm in the right spot, and just to learn a little bit more, especially with everything involving right now. Like I'm in school and ((inaudible)) teachers ((inaudible)) stuff at this point if you look at it.

Andy Hait: Right. Right. Well, very good. Glad ((inaudible)).

(Timothy): All right.

Andy Hait: You're welcome.

Operator: Our next question – I'm sorry, caller, your name was not recorded. But you queued for question. Your line is open. Please check your mute button.

(Jude): Hello?

Andy Hait: Yes?

(Jude): Oh hi, yes, my name is Jude. Sorry about that.

So the question that I have, I'm looking at getting into the clean industry – clean energy industry which is it covers all of the areas that you're both talking about today. And I'm wondering there's some companies that I've looked at and they are in multiple sectors. They for instance have a refinery, they also do reclamation. Then I think that would be considered manufacturing. But maybe refinery and manufacturing is different. And then they also resell.

So I'm just wondering if you have some suggestions about which sector I should look at first if I want to get that information.

Andy Hait: Yes. So yes, great question. So when you think about the sort of thematic industries, the green economy, the clean economy, the tourism economy, in nearly every one of those thematic categories, the businesses that are involved in that economy are scattered across multiple, dozens, maybe even hundreds of NAICS codes.

When you think about the clean economy, clean energy, there are certainly businesses in that industry that are classified in NAICS 22, which is the utilities sector. In fact, under the NAICS 22, there are specific (fix) to these NAICS codes for solar, geothermal, biomass, and wind electric power generations. So companies that are generating electricity with a wind farm up on the mountain ridge in California, that data are published in the Economic Census under that NAICS 22.

There are clean businesses that are in the manufacturing sector, either because they make clean energy products, they make wind turbines let’s just say for example, or they use clean energy products. They have those clean energy technologies in their manufacturing process. So when they're running their actual manufacturing plants, they're using those clean technologies, or they are sort of affiliated with those clean technologies.

If you’ve ever driven up on the Jersey turnpike going up to Northern New Jersey, they're the very large refinery operation on one side of the highway, and adjacent to that operation is a co-generation plant where they take excess heat from that refinery operation and turn it into electricity. That’s a clean operation because they are taking that heat that would have otherwise just have vented off into the air and then turn and get – using it to boil water to create steam, to turn the turbine, and to generate electricity. So those activities definitely are scattered across there.

When you just mentioned the refinery, petrochemical plants and petroleum refineries, yes, those are both considered part of the manufacturing sector. And in fact, they're in one of the categories that we're even talking about today; the petroleum, and coal, and oil manufacturing. That's where refineries are classified. So yes, they are scattered across a wide variety of industries.

What I would recommend you do is there are a number of organizations that have created their own definition for a lot of these sort of thematic industries. For example, the Bureau of Economic Analysis, BEA, sort of one of our children agencies at the Census Bureau, they had a green economy account, they had a tourism account that is published in the – by the Bureau of Economic Analysis. And they have a list of what are the industries that they associate with tourism, with the green economy, with clean economy.

So I would Google a couple of those and you'll see some of those industries, some of those different categories.

You will notice that the definition is not consistent. I really wish it was consistent across the people who have tourism data for example, the definition is not the same. But at least you can sort of understand what are the industries that are generally thought of as being associated with that field as opposed to ones that are kind of – some think that they are, and some think they aren't.

So we don't actually at the Census Bureau have those topical sort of groupings of industries defined. We normally just refer people to those other sources. So hopefully that's helpful.

(Jude): It was very helpful, yes. And stating that the thematic industry was also very descriptive. I appreciated that.

And this is specifically in the oil and gas, but it's reclaiming the hazardous materials, reprocessing that, and then selling it. So those – you think those would still be thematic, or would that be basically in that one (volume)?

Andy Hait: Yes, those businesses that take, use motor oil for example, and turn it back into a clean lubricant, they are scattered in essentially two main places. Some of them are actually in the manufacturing sector, and other ones are in the administrative and support, and waste management, and remediation services sector. That's a real mouthful, NAICS 56. That's the sector that some of those businesses are classified in. So it really sort of depends upon what they are consuming, and what they – to establish or are consuming into.

(Jude): Okay, yes. It's the HVAC type coolants.

Andy Hait: Right.

(Jude): All right, well thank you. And is there – the green economy list is very helpful, the BEA. (I've been taking it out tonight). I appreciate all your help.

Andy Hait: You're very welcome.

Operator: And there are no other questions in queue.

Andy Hait: Great. Well again everyone, thank you all so much. Lynda, were there any questions in the chat that we haven't gotten to?

Lynda Lee: There's one question. It's is the data different from what you just published on the – from the BLS?

Andy Hait: So, short answer, yes. The Bureau of Labor Statistics publishes statistics on employment and wages in a program called the Quarterly Census of Employment and Wages, QCEW. It is a fabulous data program that has really timely quarterly data on employment and wages.

Their data are similar to the Economic Census' employment and payroll data in that they cover employer businesses only, they do not cover self-employed people, just like we don't. But they are a little different, number one in that they publish wages data weekly, monthly, et cetera, wages, as opposed to annual payroll. So definition of what payroll is and the definition of what is included in wages are not the same thing. Total annual payroll would include some types of benefits where wages typically do not include some type of paid leave and things like that. So there are some definitional differences.

But the single biggest difference I would say when people compare the Bureau of Labor Statistics' employment and wages Data to the Census Bureau's employment and wages data, is sometimes you will see differences in the values simply due to the classification of that business.

BLS just collects data on employment and wages. And when they ask the business to report what industry they're classified in, that business chooses their own NAICS code, and they assign themselves to a specific industry, and that's what their data are being tabulated in.

At the Census Bureau in the Economic Census, we not only collect payroll and employment data, but we also collect those shipments data. We collect materials consumed data for example, in the manufacturing sector.

And very often when our analysts are reviewing the data that is published or that a business has responded or reported to us, we find discrepancies. For example, there are two different NAICS codes for companies that make sweaters. If you make sweaters in a knitting mill, meaning you take yarn and you turn it into a knitted sweater, you are classified in one industry. If you buy

already knit panels and all you're doing is sewing those panels together to turn it into a sweater, you're in a different NAICS industry. And sometimes when the business chooses a NAICS code in BLS, they may not pick the right industry. NAICS can be confusing at times.

So when we collect the data and we have a business saying I am a knitting mill, I make sweaters via knitting mill, we would then check to make sure that they are reporting yarn as a material that they consume. And if we don't see any yarn that they're being consumed, the analyst would probably end up calling that company and say hey, I think you're actually a cut and sew shop, or did you just forget to report to us your yarn consumptions. And so we will often change the NAICS code assigned to a business based upon our analysis of the data.

That is very common that this classification is common in some industries where there are multiple NAICS codes for the same, what appears to be the same activity. But it's not the same activity. So we do a lot of analysis there that does sometimes results in our data being different than the BLS data.

But in theory, they still measure the same types of businesses. Employment data, measures the same type of employees. They don't count workers differently than how we do. So they are mostly pretty comparable for there.

Lynda Lee: Thank you, Andy. We have one more question that came in. It's does the data include shipments and sales to the public sector such as federal government?

Andy Hait: Yes, it does. So when we ask a manufacturing company to report their value of shipments of a particular plant, we don't particularly care whether that shipment is going to a regular customer, or to a government customer. We just ask them to report the value of the products when it leaves the plant's door. And that product could even be immediately exported. But we would still want

to count the value of the shipments as having been manufactured here in the United States regardless of where they are going.

Now to provide the type of detail that we're talking about, that the user asked about, there actually is a table in those establishing firm size reports called sales by class of customer. And in that class of customer table is where we then ask those businesses to break out their shipments into who their customer is. And there's about a dozen or so categories.

They're pretty broad category, but the public sector, governments, is one of the broad categories that is broken out. So some of them wanted to see how much do companies that make tanks, how much do they – how much of their tank shipments go to government as to go to private. Other types of companies, that data would be available in the class of customer tables. So yes, great question.

Lynda Lee: Sounds good. Thank you, Andy. With that, I do not see any additional questions coming through the chat feature.

Andy Hait: Great. Well again, thank you everybody for taking time out of your busy days. If you do think of another question that comes up after your kind of browsing our data, we have included Lynda's email address and phone number and my email address and phone number on this slide. Please feel free to contact us if you have any questions.

And with that, I'd like to say have a great afternoon.

Operator: Thank you for your participation in today's conference. All parties may disconnect at this time. Leaders, please stand by.

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